BARBERS POINT NAVAL AIR STATION
BARBERS POINT, HAWAII

Engineering Field Division/Activity:	PACDIV
Major Claimant:	CINCPACFLT
Size:	3,822 Acres
Funding to Date:	$29,012,000
Estimated Funding to Complete:	$65,207,000
Base Mission:	Maintains and operates facilities and provides services and material support to operations of aviation activities and units of the operating forces of the U.S. Navy
Contaminants:	POLs, heavy metals (chromium, copper, lead, zinc), ethyl acetate, hexane, PCBs

Number of Sites:		**Relative Risk Ranking of Sites:**			
CERCLA:	21	**High:**	4	**Not Evaluated:**	3
RCRA Corrective Action:	0	**Medium:**	12	**Response Complete:**	4
RCRA UST:	2	**Low:**	0	**Total Sites:**	23
Total Sites:	23				

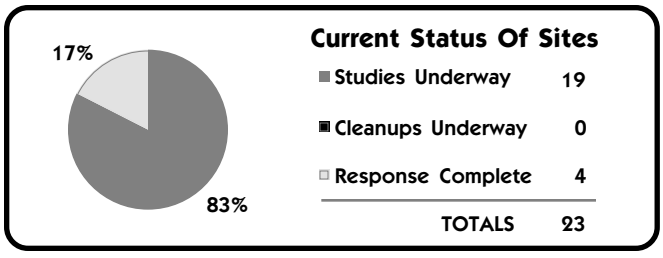
BRAC III

EXECUTIVE SUMMARY

Barbers Point Naval Air Station (NAS) is located on the island of Oahu, 13 miles west of Honolulu, Hawaii. The main base encompasses approximately 3,700 acres on the leeward coast of Oahu. Aviation activities began at Barbers Point in the 1930's. Originally, an emergency landing field, with the added requirements from World War II (WWII), it quickly grew and NAS Barbers Point was completed in 1943. Typical air station operations that contributed to contaminated sites on the facility include disposal pits, a pesticide shop, a landfill, an Oily Wastewater Treatment Plant (OWTP) farm and transformer sites. The primary contaminants of concern, affecting both groundwater and soil, include the chemical additive PCB, heavy metals, petroleum products, pesticides and solvents. Current operations include pollution prevention technologies to prevent further contamination.

NAS Barbers Point is located toward the west end of the southern coastal plain. Streams do not enter or exit the base, and there is only one small pond on the station. The groundwater found on the base is brackish. Due to the highly permeable bedrock and poorly developed soils at the NAS, any landfill leachates or liquid wastes in the ground can be expected to readily migrate to the water table. Two factors mitigate the danger from the migration potential: the groundwater discharge is probably toward the ocean and the salinity of the groundwater precludes its use as a domestic water source without pretreatment. Three endangered plant and animal species and six “depleted” plant species are present on the base. The base also contains several sensitive habitats. The land adjacent to the base, to the north and east, is used for small-scale agriculture and residential developments. Since the air station obtains its potable water from a well two miles north of the station, and most of the site-related contaminants do not appear to have migrated very far from the sites, there is little potential for human exposure to contaminants.

For increased public involvement, a Restoration Advisory Board (RAB) was established at Barbers Point in FY94. A draft of the Community Relations Plan (CRP) was completed December 1994. An Administrative Record has been updated and there is a copy of its index available for viewing in the Information Repository in Ewa Beach, Hawaii. All CERCLA documents are also available at the Information Repository.



Nine CERCLA sites were identified during the initial Preliminary Assessment (PA), completed in FY83. Three sites were identified for further investigation. In FY94, a second PA (the Environmental Baseline Survey (EBS)) was completed. Seventeen sites were identified for further investigation (including six sites included in the initial PA). Three of the sites identified in the initial PA and listed as Response Complete (RC) in FY87 were determined to require No Further Action (NFA). Two sites completed a Site Inspections (SIs) in FY88 and another completed an SI in FY93. Seventeen sites are scheduled for a Remedial Investigation/ Feasibility Study (RI/FS). One RI/FS will be complete in FY96, the remaining sites will complete an RI/FS between FY99 and FY05. Nine Interim Remedial Actions (IRAs) will be completed at 16 sites between FY99 and FY05. Two Underground Storage Tank (UST) site groups were added in FY94, following an Initial Site Characterization (ISC). The Implementation (IMP) phase will be completed in FY98 for one UST group. A Design (DES) phase is scheduled for completion in FY02 and an IMP phase in FY04 for the other UST group site. Cleanup for the UST sites will be complete after IMP.

Five sites (Sites 1, 2, 9, 13 and 20) may require groundwater remediation prior to final cleanup, which is expected in FY03. Site 20 will also require removal of contaminated concrete and/or soil. Most of the other sites at the installation will require some soil removal and are expected to be clean by FY99. Site 19 does not require Remedial Actions (RAs), but will have Long Term Monitoring (LTM) until the property is transferred. Some sites are expected to require NFA following the completion of the evaluations for the Remedial Investigations (RIs) in FY96.

Barbers Point NAS was selected for closure by the Base Realignment and Closure Commission (BRAC III) of 1993. Base closure procedures began in September 1993 with the initiation of the EBS and a BRAC Cleanup Plan (BCP). Operational closure of the base is set for July 1999. The final property transfer date is anticipated to be in FY03, when RAs at four of the sites are completed. Some property is expected to be available for transfer as early as FY96. The BRAC Cleanup Team (BCT) was formed in FY94. A draft Land Reuse Plan for the installation is expected to be complete in FY96.

BARBERS POINT NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - The island of Oahu was formed by two large volcanoes. NAS Barbers Point is located toward the west end of the southern coastal plain, in an area where deposition of coral reef limestone predominate in the uppermost sedimentary levels. It is a coral outcrop. There is very little soil cover. Streams do not enter or exit the base, and there is only one small pond on the station. The groundwater found on the base is brackish. The groundwater is in direct hydraulic connection with the Pacific Ocean. Below the uppermost coral aquifer, there are several layers of permeable coral limestone separated by less permeable materials. Due to the highly permeable bedrock and poorly developed soils at NAS, any landfill leachates or liquid wastes in the ground can be expected to readily migrate to the water table. Once in the groundwater, contaminants could be subject to mixing, induced by tidal pulses within the brackish water zone. Two factors mitigate the danger posed by the migration potential; the groundwater discharge is probably toward the ocean, and the salinity of the groundwater precludes its use as a domestic water source without pretreatment. Possible degradation of the groundwater under the station is not limited to the NAS activities. The large-scale farming irrigation that have taken place adjacent to the NAS may have affected the groundwater flowing under the installation. Any other solubles applied to the crops or soil might eventually be transmitted under the NAS to the ocean.

NATURAL RESOURCES - Because of the isolation of the islands, there are a great number of animal and plant species that are unique to the Hawaiian Islands. Much of the plant life in the mountain areas is still native, but the vegetation found in the lowlands of Oahu is mostly non-native, due to extensive agriculture, urban development and a number of military installations. Animals native to Hawaii are limited to birds and insects. Two federal and state listed endangered plant species and six "depleted" plant species are present on the base. One endangered bird was observed at the base. Sensitive habitats on-site consist of wetlands, mangrove swamps, the coastal salt flats, the coastal region of Barbers Point, and portions of lowland scrub forest and coastal strand. The land adjacent to the north and east of the base is used for small-scale agriculture and residential developments. Former sugar cane fields have been developed or are currently vacant. There is also an industrial park on the western boundary. A petroleum refinery in the industrial park has, in the past, injected its refinery wastes into a well near the installation boundary. Since the NAS obtains its potable water from a well two miles upgradient of the Station and most of the site-related contaminants do not appear to have migrated very far from the sites, there is little potential for human exposure to contaminants. There is potential for human exposure risk from groundwater contamination and direct soil contact. Since the groundwater flows to the southwest with some westerly gradients, it is assumed that it discharges to the ocean. Groundwater may be used as a drinking water source in the future, but the salinity of the groundwater would make pretreatment necessary.

RISK - A baseline for Human Health Risk Assessment using EPA's guidance for assessing CERCLA sites has been completed for all sites, except Sites 17 and 20, using invalidated data. The Human Health Risk Assessment will be finalized using validated data. An Ecological Risk Assessment will be performed only for Site 2 (Ordy Pond).

The Department of Defense's (DOD's) Relative Risk Ranking system was used to rank the risk factors for 16 of the 19 active sites on the installation in FY95. Three sites were not evaluated at this time, they will be evaluated after further data collection. Four of the 16 evaluated sites at Barbers Point NAS received a "High" relative risk ranking. Three of the four sites had high scores for potential groundwater contamination. Two sites (one site had two high rankings for both media) had high scores for potential soil contamination. Possible receptors of the groundwater and soil contamination include base personnel, visitors, construction workers and the Pacific Ocean. The groundwater is brackish and not used for drinking. Twelve sites received a "Medium" risk ranking.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - In FY94, public involvement at Barbers Point was enhanced with the formation of the Restoration Advisory Board (RAB). The RAB has 17 members, composed of representatives from the State of Hawaii, EPA Region IX, the Redevelopment Commission, the Oahu Civil Defense Agency and members of several community associations. The community associations involved include Friends for Ewa, Save Ewa Beach Ohana, and Hawaii Thousand Friends. Since the RAB was established, the community has become more involved with the cleanup effort. RAB members have been provided copies of the Environmental Baseline Survey (EBS), BRAC Cleanup Plan (BCP), the Community Environmental Response Facilities Act (CERFA) documents, and all Remedial Investigation/Feasibility Study (RI/FS) documents for review. Meetings are held on an "as-needed" basis.

COMMUNITY RELATIONS PLAN - A draft of the Community Relations Plan (CRP) was completed December 1994. The final version of the CRP is on hold.

INFORMATION REPOSITORY - The Administrative Record, first established in 1993, has recently been updated and there are three copies available for viewing, one at the installation, one at Naval Facilities Engineering Command, Pacific Division (PACDIV) at Pearl Harbor and an index of documents in the Information Repository. The Information Repository was established in 1992 and is housed at the Ewa Beach Public School and Library, in Ewa Beach, Hawaii.

BASE REALIGNMENT AND CLOSURE

BRAC - Barbers Point NAS was selected for closure by the Base Realignment and Closure Commission (BRAC III) of 1993. Base closure procedures began in September 1993 with the initiation of the EBS and a BCP. Operational closure of the base is set for July 1999. The final property transfer date is estimated to be in FY03, when Removal Actions (RAs) at Site 1 are completed. Some property is expected to be available for transfer as early as FY96. The installation was selected for closure because existing operational units could be transferred to other military installations and still adequately perform the mission requirements.

BRAC CLEANUP TEAM - The BRAC Cleanup Team (BCT) was formed in FY94. The cleanup process was accelerated through BCT meetings, on-site visits and concurrent review of documents, including the EBS, the BCP and CERFA documents.

DOCUMENTS - A BCP and EBS have been completed. The BCT identified 14 sites and three Operable Units (OUs) that required further investigation, in FY95, and the results of these investigations will be summarized in an interim report. Final reports for all sites, except Site 17, investigated under BRAC are expected to be completed in FY96. It is anticipated that following the investigation, several of the sites will require No Further Action (NFA).

Environmental Conditions of Property Classification						
1	2	3	4	5	6	7
0 acres	0 acres	0 acres	0 acres	0 acres	50 acres	3,772 acres

LEASE/TRANSFER - The Environmental Condition of the Property (ECP) for the majority of the property at NAS Barbers Point is Category 7, property requiring further evaluation, because no previous investigations have been conducted to verify or deny the presence of potential contamination. The ECP will be adjusted upon completion of the RI/FS activities, which are currently underway. Investigations are expected to identify parcels suitable for transfer. Drums have been removed from sites identified in the EBS.

BARBERS POINT NAS

REUSE - A draft Land Reuse Plan for the installation is expected to be completed in FY96. All property at the NAS was classified as Category 7 and required further investigation because the installation had not determined whether the groundwater on the base had been impacted by contaminated sites on the base. The classification will not change until the groundwater investigation is complete. The Redevelopment Commission has completed an evaluation of the proposed Federal agency uses of the base property and a draft plan has been prepared dividing portions of the installation into 13 Federal use parcels. The designation of parcel boundaries, and priorities for turnover of the parcels, are being developed by the Redevelopment Commission, with input from other agencies and community groups.

FAST-TRACK INITIATIVES - The Navy is committed to or has implemented the following initiatives to accelerate environmental restoration efforts at Barbers Point NAS: technology review, immediate RAs to eliminate "hot spots", overlapping phases, improved contracting procedures, interfacing with community reuse plan and schedule, emphasizing cleanup over studies, using technical input from experts, and use of innovative management techniques.

HISTORICAL PROGRESS

FY83

Sites 1-9 - A Preliminary Assessment (PA) was completed and nine CERCLA sites were identified. Sites 1-3 were identified for further investigation.

FY87

Sites 4, 6 and 7 - Three sites were listed as Response Complete (RC).

FY88

Sites 2 and 3 - Site Inspections (SIs) were completed, No Further Action (NFA) required.

FY93

Site 1 - An SI was completed and a Remedial Investigation (RI) was required.

FY94

Sites 1, 2, 9, 13 and 20 - A Remedial Investigation/Feasibility Study (RI/FS) was started, with completion expected in FY03.
Site 3 - An RI/FS was started, and expected completion is in FY05.
Sites 5, 8, 10-12, 14, 15, 18 and 22 - An RI/FS was started and completion is expected in FY99.
Sites 10-20, 22 and UST 1 - Another PA, the Environmental Baseline Survey (EBS), was completed. Twelve CERCLA sites and one Underground Storage Tank (UST) site were added.
Site 19 - An RI/FS was started and completion is expected in FY96.

PROGRESS DURING FISCAL YEAR 1995

FY95

Site 16 - All actions were completed and listed as RC.

UST 2 - Interim Remedial Action (IRA) for waste and soil removal was started and completion is expected in FY96.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Site 19 - An RI/FS will be completed.

FY97

Site 1 - Two IRAs will start: one for removal of soils contaminated with paint, pesticide, petroleum products, the chemical additive PCB, non-hazardous refuse, solvent, and heavy metals; the other for groundwater treatment for paint, pesticide, petroleum products, the chemical additive PCB, non-hazardous refuse, solvent, and heavy metals contamination. Both IRAs have an expected completion date of FY03.
Site 2 -Two IRAs will start: one for removal of soil contaminated with ordnance compound, scrap metal, and non chlorinated solvents; the other for groundwater treatment for ordnance compound, scrap metal, and non-chlorinated solvents contaminants. Both IRAs have an expected completion date of FY03.
Site 5 - An IRA, for removal of soil contaminated with petroleum products will start. It has an expected completion date of FY99.
Site 8 - An IRA, for capping of site with petroleum products, refuse without hazardous waste, scrap metal, and solvent contaminant will start. It has an expected completion date of FY99.
Site 9 - Two IRAs will start for Site 9: one for removal of soils contaminated with acid, pesticide, petroleum products, the chemical additive PCB, solvent, and heavy metals; the other for groundwater treatment for acid, pesticide, petroleum products, the chemical additive PCB, solvent, and. heavy metals contamination. Both IRAs have an expected completion date of FY03.
Site 10 - An IRA, for in-situ soil treatment for petroleum products, the chemical additive PCB, and heavy metals contamination will start. There is an expected completion date of FY99.
Site 11 - An IRA, for removal of soil contaminated with paint, pesticide, petroluem products, solvent, and heavy metals, will start. There is an expected completion date of FY99.
Site 12 - An IRA, for removal of soil contaminated with blasting grit, pesticide, petroleum products, scrap metal, solvent, and heavy metals will start. There is an expected completion date of FY99.
Site 13 - An IRA, for removal of soil contaminated with petroleum products, PCBs, heavy metals, and chlorinated solvents will start. There is an expected completion date of FY03.
Site 14 - An IRA, for removal of soil contaminated with petroleum products, the chemical additice PCB and heavy metals will start. There is an expected completion date of FY99.
Site 15 - An IRA, for removal of soil contaminated with petroleum products, heavy metals, and chlorinated solvents will start. There is an expected completion date of FY99.
Site 18 - An IRA, for removal of soil with heavy metals contamination will start. There is an expected completion date of FY99.
Site 19 - Long Term Monitoring (LTM) will begin. There is an expected completion date of FY03.
Site 20 - An IRA, for removal of soil with PCB contamination will start. There is an expected completion date of FY03.
Site 22 - An IRA, for capping for asbestos will start. There is an expected completion date of FY99.
UST 2 - A Remedial Action (RA) phase will start. There is an expected completion date of FY98.

BARBERS POINT NAS
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	21							
SI	3							
RI/FS			1			9		7
RD								
RA								
IRA						9(9)		7(10)
RC	3	1	1			9		7
Cumulative Response Complete	14%	19%	24%			67%		100%
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC	1							
INV								
CAP								
DES								1
IMP					1			1
IRA			1(1)					
RC					1			1
Cumulative Response Complete					50%			100%